

STATE OF ILLINOIS

ILLINOIS COMMERCE COMMISSION

ILLINOIS COMMERCE COMMISSION	:	
ON ITS OWN MOTION	:	00-0337
- VS -	:	00-0338
CONSUMERS ILLINOIS WATER COMPANY	:	00-0339
	:	(Consolidated)
Proposed general increase in water rates	:	

**AFFIDAVIT OF THOMAS R. STACK**

STATE OF ILLINOIS	:	
	:	SS
COUNTY OF SANGAMON	:	

I, Thomas R. Stack, being duly sworn on oath state that I am the same Thomas R. Stack identified in the following exhibits:

ICC Staff Exhibit 4.00 (direct testimony consisting of a cover page; 27 pages of text in question-and-answer form; Appendix A; and Schedules 4.01 K, 4.02 K, 4.03 K, and 4.04 K) and

ICC Staff Exhibit 11.00 (rebuttal testimony consisting of a cover page; 8 pages of text in question-and-answer form; and Schedules 11.01 K, 11.02 K, and 11.03 K);

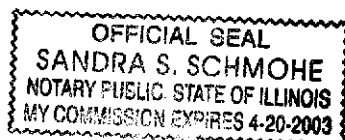
that I have prepared the above exhibits and am familiar with the contents thereof; and that the above exhibits are true and correct to the best of my knowledge as of the date hereof.

Further affiant sayeth not.

Thomas R. Stack

SUBSCRIBED AND SWORN to before  
me this 14<sup>th</sup> day of November, 2000.

Sandra S. Schmohe  
NOTARY PUBLIC



**OFFICIAL FILE**  
I.C.C. DOCKET NO. 00-0337-0339  
STAFF Exhibit No. 4.00 & 11.00  
Witness STACK  
Date 11/14/00 Reporter Jan

Docket Nos. 00-0337,00-0338 & 00-339 Consolidated  
ICC Staff Ex. 4.00

**DIRECT TESTIMONY**

of

**THOMAS R. STACK**  
Director  
Rates Department  
Financial Analysis Division  
Illinois Commerce Commission

**CONSUMERS ILLINOIS WATER COMPANY**

**Docket Nos. 00-0337, 00-0338 &00-0339 Consolidated**

**August 31, 2000**

1    **I.    QUALIFICATIONS**

2

3    Q.    Please state your name and business address.

4    A.    Thomas R. Stack, 527 East Capitol Avenue, Springfield, Illinois 62701.

5

6    Q.    By whom are you employed and in what capacity?

7    A.    I am employed by the Illinois Commerce Commission (Commission) as  
8        Director of the Water Department of the Public Utilities Division.

9

10   Q.    How long have you been employed by the Illinois Commerce Commission?

11   A.    Since January, 1968.

12

13   Q.    Will you please state briefly your qualifications?

14   A.    I graduated from Illinois Institute of Technology in 1964 with a Bachelor of  
15        Science degree in Fire Protection and Safety Engineering. I am a  
16        Registered Professional Engineer in the State of Illinois.

17

18        I was employed by the Illinois Inspection and Rating Bureau as an inspector  
19        from June 1964 to January 1968. My duties included the inspection of  
20        sprinkler and non-sprinkler buildings for the purpose of establishing fire  
21        insurance rates.

22        Since January, 1968, I have been continuously employed by the Illinois  
23        Commerce Commission. Until November, 1980, I was assigned to the

24 Water Engineering Section as a Utility Engineer. My duties were to assist  
25 the Chief Water Engineer in the administration of all engineering matters  
26 associated with the regulation of privately owned water and sewer utilities in  
27 the State of Illinois. In this position, I (a) evaluated cost-of-service studies  
28 and rate structures, (b) reviewed and analyzed water and sewer utilities' rules  
29 and regulations, (c) reviewed and evaluated depreciation studies, (d)  
30 handled investigations and correspondence relating to inquiries and formal  
31 and informal complaints, (e) made special studies and reported to the Chief  
32 Water Engineer and the Commission when directed to do so, and (f)  
33 participated in formal rate proceedings and other hearings involving water  
34 and sewer utilities.

35  
36 In November of 1980, the Commission Staff (Staff) functions were reorgan-  
37 ized and I was assigned to the Economics and Rates Department. My  
38 responsibilities included rate design and cost-of-service analyses for  
39 electric, gas, sewer, and water utilities and the preparation of testimony on  
40 rates and rate-related matters.

41  
42 In January, 1982, I was appointed Senior Engineer, Assistant Chief of the  
43 Rate Design Section. The Staff functions were reorganized somewhat in  
44 August 1986, when the Economics and Rates Department was eliminated  
45 and the Rate Review Department was created. My duties, however, did not  
46 change. In November 1987, the Department's name was changed to the

47 Revenue and Rates Department. On July 1, 1988, the Revenue and Rates  
48 Department was eliminated and the Rate Design Section became the Rate  
49 Design Department. I was appointed Assistant Director of that Department.

50  
51 On November 1, 1989, I was appointed Director of the Water/Sewer  
52 Program of the Office of Policy and Planning. My general duties were to  
53 assist and advise the Commissioners in the process of policy development  
54 for regulated water and sewer utilities and to monitor implementation of  
55 water and sewer policy approved by the Commission. Specific duties  
56 included, a) identifying relevant and potential issues facing the Commission  
57 in various contexts, b) coordinating the analysis and research of those  
58 issues, c) participating in contested case management from date of filing to  
59 determine the extent of required involvement, d) testifying on issues when  
60 other technical staff is not available, e) developing and presenting testimony  
61 on policy issues and f) acting as a Commission-wide resource on policy  
62 established by the Commission.

63  
64 On October 7, 1992, the water and sewer sections of the Office of Policy &  
65 Planning and the Public Utility Divisions were combined and I was named  
66 Director of the Water and Sewer Program. In addition to the above  
67 responsibilities, I was also responsible for the handling of engineering and  
68 rate design matters for water and sewer utilities regulated by the  
69 Commission.

70

71       On April 2, 1997, I was named Director of the Rates Department of the  
72       Public Utilities Division. My duties include the supervision of rate design and  
73       cost of service issues for Electric and Gas Utilities in addition to those duties  
74       I had as Director of the Water and Sewer Program.

75

76       On January 24, 2000, the water function was separated from the Rates  
77       Department and I was named Director of the Water Department.

78

79       I have been involved in substantially more than 100 rate cases and numerous  
80       other formal matters.

81

82   Q.    Are you a member of any professional organizations?

83   A.    Yes, I am a member of the American Water Works Association (AWWA).

84

85   Q.    Have you served on committees of any professional organizations?

86   A.    Yes, I am a member of the Staff Subcommittee on Water of the National  
87       Association of Regulatory Utility Commissioners (NARUC) and the past  
88       chair of that Subcommittee. I am also a past member of the Subcommittee  
89       on Rates and Charges of the AWWA and am a past Vice Chairman of that  
90       Subcommittee.

91

92 Q. Have you presented papers on rates and utility regulation?

93 A. For the last seventeen years I have served as a panelist on cost allocation  
94 and rate design at the Utility Rate Seminars sponsored by the Water  
95 Committee of NARUC. I have also presented papers on the regulation of  
96 water utilities before a number of organizations including NARUC, the  
97 National Association of Water Companies, the Iowa State Regulatory  
98 Conference, the American Water Works Association and the Biannual  
99 Regulatory Information Conference sponsored by the National Regulatory  
100 Research Institute.

101

102 **PURPOSE OF TESTIMONY**

103 Q. What is the purpose of your testimony?

104 A. The purpose of my testimony is to address Consumers Illinois Water  
105 Company's filing for a general rate increase. I address revenue, cost-of-  
106 service, rate design and tariff matters for Consumers Illinois Water  
107 Company's ("Consumers" or "Company") Kankakee Division and one tariff  
108 matter (the Infrastructure System Improvement Charge {DISC}) for their  
109 Vermilion District.

110

111 Q. Are you making any recommendations concerning the appropriateness of  
112 the total annual revenue requirement for the Company in this proceeding?

113 A. No, I am not. My testimony is directed toward the review of the revenue  
114 computations and proposed tariffs (and underlying support) filed by the

115 Company to recover the revenue requirement deemed appropriate in this  
116 proceeding.

117

118 Q. Have you visited the facilities of the Company?

119 A. Yes, over the years I have visited the facilities in the Kankakee, Vermilion  
120 and Woodhaven Districts on a number of occasions. In connection with this  
121 case, I visited the facilities of the Vermilion and Kankakee Districts.

122

123 **REVENUE - Kankakee Division**

124 Q. Did you review the revenue calculations presented by the Company  
125 regarding its Kankakee Division?

126 A. Yes, I did.

127

128 Q. Do you agree with the revenue calculations provided by the Company in its  
129 initial presentation filed on April 14, 2000?

130 A. No, I do not.

131

132 Q. Please explain why not.

133 A. As part of my normal work, I requested a breakdown of the Other Revenues  
134 (Staff Data Request TRS 1.10). Mr. Dave Monie, the witness for the  
135 Company who prepared the revenue computations, responded and  
136 indicated that the Other Revenues included revenues associated with  
137 residential multi-unit buildings that would normally be included as Metered



138 Revenue. Since Mr. Monie was not aware of this treatment of revenue by the  
139 Company, he indicated that his calculations of revenues at present and  
140 proposed rates were not correct. He provided me with a revised revenue  
141 calculation treating the residential multi unit buildings as metered revenues  
142 (Response to Staff Data Request TRS 1.07 dated July 24, 2000).

143

144 Q. Are you in agreement with Mr. Monie's revised revenue computation at  
145 present rates?

146 A. In general, I agree with his computations. There is a slight difference in other  
147 revenues between Mr. Monie and myself based on a later adjustment by Mr.  
148 Monie to the Company's other revenues. There is also a difference in that I  
149 excluded franchise fees from revenues while Mr. Monie included them in  
150 revenues. Since Staff Witness Dianna Hathhorn is excluding the expense for  
151 franchise fees in her revenue requirement exhibit in this proceeding, there is  
152 no difference in the revenue requirement as a result of Staff excluding the  
153 Franchise Fee revenue and expenses.

154 B. Have you prepared an exhibit setting forth Staff's proposed revenues  
155 proforma at present and proposed rates?

156 A. Yes, I have. The exhibit is identified as ICC Staff Exhibit 4.00, Schedule  
157 4.01 K and is entitled Consumers Illinois Water Company, Docket No. 00-  
158 0337 - Kankakee, Staff Computation of Revenues. It consists of three  
159 pages. Page 1 contains a summary of the revenues at present and  
160 proposed rates. Page 2 contains additional detail of the revenues by class

161 at present rates while page 3 contains similar information by class at  
162 Company proposed rates.

163

164 **EMBEDDED COST OF SERVICE STUDIES**  
165

166 Q. Briefly, please describe the importance of a cost study as the basis for  
167 determining rates for utility service.

168 A. A cost study is performed to allocate costs among all customer classes to  
169 determine each customer class' respective cost responsibility for the costs  
170 imposed on the utility by that specific customer class. A more detailed  
171 explanation of embedded cost studies and how costs are generally allocated  
172 is outlined in the attached Appendix A to this exhibit.

173

174 Q. Did the Company present a cost of service study (COSS) for the Kankakee  
175 District in this filing?

176 A. Yes , they did. A study was prepared by Mr. Dave Monie on behalf of the  
177 Company and presented as Company Exhibit 9.0.

178

179 Q. Do you agree with the results of Mr. Monie's study.

180 A. No, Mr. Monie has revised his usage figures for the various customer  
181 classes which affect the costs and resulting rates significantly. I have  
182 incorporated the revised usage figures into my study. There are also some  
183 other differences which I will discuss later.

184

185 Q. What methodology did you use in preparing your COSS for the Kankakee  
186 District?

187 A. I prepared a COSS for the Kankakee District, which has been identified as  
188 ICC Staff Ex. 4.00, Schedule 4.02 K.

189

190 The COSS uses the Base-Extra Capacity method of cost allocation to  
191 distribute costs to customer classes. The Base-Extra Capacity method is  
192 the same methodology employed and accepted by the Commission the last  
193 time the rates for the Kankakee District were set. The Kankakee District's  
194 last rate case was Docket No. 97-0351. A further discussion on  
195 methodology is provided in the attached Appendix A to this exhibit.

196

197 Q. Please provide a brief explanation of your COSS, identified as ICC Staff  
198 Ex.4.00, Schedule 4.02 K.

199 A. The calculation and summary of total revenues at the Company's present and  
200 proposed rates, as well as my recommended rates for each customer class,  
201 are set forth on Staff Exhibit 4.00, Schedule 4.02 K, pages 1 and 2.

202

203 The class relative cost-of-service figures, excluding Fire Protection, appear  
204 at the very bottom of page 2 at the line, "Percent Cost of Service", for each  
205 customer class. For example, these figures show that the Residential class  
206 will provide revenues equal to 99.8 percent of its calculated cost-of-service.

207

208

The Demand Factors for Maximum Day ("Max Day") and ~~Maximum Hour~~

209

("Max Hour"), for customer classes and Fire Protection, and the million

210

gallons per day ("MGD") pumpage and consumption numbers are listed on

211

page 3 of the COSS. These factors represent the Max Day and Max Hour

212

water usage relative to the average usage. The Demand Factors allocate

213

costs to the customer classes and to Fire Protection. The allocation

214

amounts are on pages 11 and 12. The water usage and pumpage amounts

215

in MGD are used to allocate plant in service and operation and maintenance

216

("O&M") expenses to the plant's Base, Max Day and Max Hour functions.

217

218

Page 4 contains a numerical listing, in percentages, of cost allocation codes

219

for the COSS. For example an account assigned an allocation Code 3

220

would be allocated 53.95 percent to Base Cost and 46.05 percent to Max

221

Hour Cost.

222

223

Allocation of Net Plant in Service to the Base Cost, Max Day, Max Hour,

224

Billing, Meters, Services, and Fire Protection categories is shown on pages

225

5 and 6. Page 6 also shows the percentage allocations for the Net Plant in

226

Service categories. These percentages are then used to allocate Utility

227

Operating Income, Other Taxes, and Income Taxes to the various plant

228

functions on page 9.

229

230       The allocation of Total Revenue Requirement, i.e., total Operation and  
231       Maintenance (O&M), Depreciation, Other Taxes, Income Taxes and Utility  
232       Operating Income to the Base Cost, Extra Capacity, Customer Costs, and  
233       Fire Protection functions is shown on pages 7-10. The total revenue  
234       requirement is located at the bottom of page 9 on the line entitled "DIRECT  
235       CUSTOMER REVENUES". The "TOTAL REVENUES ALLOCATED TO  
236       SMALL MAINS" is on page 10. The Direct Customer Revenues and Total  
237       Revenues Allocated to Small Mains are used to calculate the Cost of Service  
238       at the bottom of page 2.

239

240       The cost-of-service allocation percentages for the customer classes and fire  
241       protection are summarized on page 11. The allocation percentages are  
242       derived from annual consumption, the demand factors listed on page 3, the  
243       number of monthly bills, and the number of monthly equivalent meters and  
244       services. For example, Residential usage is calculated to be 3.894 MGD  
245       on page 11. That amount is 41.13 percent of total system usage. Therefore,  
246       41.13 percent of total Base Cost is assigned to the Residential class.  
247       Multiplying the Residential Max Day factor of 2.50 MGD (from page 3 of 16)  
248       by the Average Day of 3.894 MGD (calculated by converting the annual  
249       residential usage, found on page 11, to million gallons per day) produces the  
250       Residential Max Day usage of 9.736 MGD. The difference between the Max  
251       Day and Average Day is the Excess of 5.842 MGD for the residential class.

252 The Residential Excess of 5.842 MGD is 64.14 percent of the total Excess  
253 usage over Average Day usage, and is used to allocate the Residential  
254 share of total Max Day costs.

255

256 The percent allocation of costs to the primary customer classes and Fire  
257 Protection, the total cost-of-service, and the cost-of-service according to  
258 each customer class are on page 12. The calculation of Public Fire  
259 Protection and Private Fire Protection cost-of-service is on page 13. Public  
260 Fire Protection Rates are on page 14.

261

262 The number of equivalent meters and service lines and their capacity ratios  
263 are on page 15. Distribution of customer costs by equivalent meter and  
264 service ratios recognizes that meter and service costs vary, depending on  
265 considerations such as size of service pipe, materials used, locations of  
266 meters, and other local characteristics for various sized meters as compared  
267 to 5/8" meters and services. The number of equivalent meters and services  
268 (i.e. which is based on meter ratios) assists in allocating costs assigned for  
269 recovery in the customer charges. This is necessary to adjust the units of  
270 service for each customer class as indexed against the smallest meter size.

271 Therefore, customers are allocated a charge that reflects the costs  
272 associated with their particular meter size. Equivalent Meters and Services  
273 ratios are taken from the AWWA Water Meters-Selection, Installation,  
274 Testing, and Maintenance Manual (M6), 1972, pages 32-33.

275

276 The allocation of depreciation expense according to plant account is set forth  
277 on page 16 of the COSS.

278

279 A brief description of COSS allocation codes appears on page 17 of  
280 Schedule 4.01

281

282 Q. Where did you obtain the operating and maintenance expenses?

283 A. I requested a breakdown in ICC Staff Data Request TRS 2.07. However, the  
284 utility was unable to breakdown the expenses in the form needed for the  
285 future test year. Instead, they provided 1999 expenses. I used test year  
286 expenses for those accounts that were readily identifiable such as electric,  
287 chemicals, insurance and regulatory and I then increased the other expenses  
288 by a uniform percentage to equal total Company proposed 2001 test year  
289 expenses.

290

291 Q. What demand factors and million gallons a day ("MGD") pumpage numbers  
292 are you proposing to use for the Kankakee District?

293 A. I have employed the same class demand factors that were approved by the  
294 Commission in Kankakee District's last rate case, Docket No. 97-0351.  
295 These factors are different than those used by Mr. Monie but I believe that  
296 they are more reflective of the actual results in the Kankakee District.  
297 Applying the maximum day factor I recommend results in a maximum day

298 flow of 17.946 MGD (as set forth on page 11 of Schedule 4.02 ) which  
299 compares favorably with the 17.3 MGD maximum day actually experienced  
300 by the Company in 1999. I would always expect the demand factor to  
301 exceed the actual flow rate since the demand factors are non-coincidental  
302 while the actual flow is, by definition, coincidental. In the same way, the  
303 maximum hour flow calculates to 22.075 MGD using my demand factors,  
304 while the actual 1999 figure is 21.5 MGD.

305

306 If Mr. Monie's demand factors are used, the maximum day is only 13.469  
307 MGD and the maximum hour flow is only 18.353 MGD, both of which are  
308 considerably less than the actual flows in 1999. Therefore, in my opinion,  
309 the demand factors used in the last rate case are appropriate for use in this  
310 case and produce much more realistic results than those used by Mr. Monie.

311

312

313 Q. Did the utility provide flow rates for the last five years?

314 A. They provided average and maximum flows for the last five years, estimates  
315 of the maximum hour flows for 1996, 1997 and 1998 and detailed figures for  
316 1995 and 1999.

317

318 Q. What flow rates did you use in your COSS?

319 A. I used the 1999 flow rates since these rates were higher, which indicates  
320 growth in the system and in the peak flows which the water facilities must



321 meet. In my opinion, using 1999 in this instance better represents current  
322 conditions than would flows from the prior rate case which were based on  
323 conditions in prior years. Since the Company did not provide the 1999 peak  
324 hour pumpage amount, I developed that figure by taking a ratio of the figures  
325 provided in the last rate case.

326

327 Q. You have indicated several differences with Mr. Monie's COSS; are there  
328 others?

329 A. Yes, one area is fire protection. Mr. Monie treats public fire hydrants as 4  
330 inch connections. I treat them as 6 inch connections and have a number of  
331 reasons for that treatment. First and foremost, the connections are virtually  
332 all 6 inched in diameter. The hydrant barrels are typically 6 inches in  
333 diameter. The newer hydrants are equipped with (1) 4 in (steamer) nozzle  
334 and (2) 2 ½ inch hose nozzles while the older hydrants have (2) 2 ½ hose  
335 nozzles. There is also a gate valve on most hydrant connections.

336

337 Private fire connections consist of a pipe often 6, 8 or 12 inches in diameter.  
338 Connected to that pipe could be a single fire hydrant, several hydrants, a  
339 sprinkler system, a storage tank or some combination of these items. The  
340 sprinkler system may be the dry type which involves a valve that separates  
341 the water from a sprinkler system that is subject to freezing. There will be a  
342 shut off valve and possibly an approved backflow prevention device. While  
343 there may be an eight inch connection feeding the sprinkler system, the

344 pressure loss due to the smaller sprinkler piping and other devices results in  
345 lower flows than would be expected from a straight 8 inch connection. In my  
346 opinion, reducing the size of the public fire protection connection for hydrants  
347 from 6 inches to 4 inches while leaving the private connection sizes at full  
348 size improperly reduces the allocation of costs to the public system at the  
349 expense of the private system since there are other restrictions on the private  
350 system that are not reflected when the reduction is made only to the public  
351 system. It is fairer to treat all connections at their full size. The use of the  
352 connection size was introduced a number of years ago to simplify billing for  
353 private systems. Prior to that time, rates were based on the number and type  
354 of appliances attached to the private system. This was inequitable in many  
355 instances since all sprinklers rarely opened at the same time and it was very  
356 difficult for the utility to track new additions to a private system. The existing  
357 fire protection rate system has worked well, is fair to everyone involved since  
358 it is based on the size of the connection which is something over which the  
359 customer has control. I do not recommend changing the system.

360 **RATE DESIGN**

361 Q. What is the current and proposed rate structure for the Kankakee District.

362 A For general water service, the rate structure consists of a fixed customer  
363 charge that varies with the size of the meter, and a declining rate block  
364 based on water usage. Currently, the public fire protection charges are  
365 based on the cost to each municipality or fire protection district with such  
366 cost being recovered from customers as a fixed charge based on meter

367 size. Private fire protection charges are based on the size of the service  
368 connection. Except for public fire protection charges, the Company  
369 proposes to continue the current rate structure. The Company is proposing  
370 to institute an Infrastructure System Improvement Charge.

371

372 Q. Do you agree with the Company's proposed rate structure changes?

373 A. In my opinion the current rate structure represents an appropriate rate  
374 structure for the Kankakee Division. I agree with the Company's proposal to  
375 maintain the current rate structure for general service rates. As I discuss  
376 below, I disagree with the Company's proposed change to the public fire  
377 protection rate structure and the proposal to adopt a Infrastructure System  
378 Improvement Charge.

379

380 Q. Please explain the Company's proposed treatment of public fire protection  
381 charges.

382 A. The Company proposes one set of public fire protection charges, based on  
383 meter size, that will apply to all customers regardless of the municipality or  
384 fire protection district in which they reside.

385

386 Q. Is the recovery of public fire protection costs addressed in the Public Utilities  
387 Act (Act)?

388 A. Yes, the recovery of public fire protection costs is addressed in Section 9-  
389 223 of the Public Utilities Act (220 ILCS 5/9-223) which reads as follows:

390 The Commission may authorize any public utility engaged in  
391 the production, storage, transmission, sale, delivery or  
392 furnishing of water to impose a fire protection charge, in  
393 addition to any rate authorized by this Act, sufficient to cover a  
394 reasonable portion of the cost of providing the capacity,  
395 facilities and the water necessary to meet the fire protection  
396 needs of any municipality or public fire protection district. Such  
397 fire protection charge shall be in the form of a fixed amount per  
398 bill and shall be shown separately on the utility bill of each  
399 customer of the municipality or fire protection district. Any filing  
400 by a public utility to impose such a fire protection charge or to  
401 modify a charge shall be made pursuant to Section 9-201 of  
402 this Act. Any fire protection charge imposed shall reflect the  
403 costs associated with providing fire protection service for each  
404 municipality or fire protection district. No such charge shall be  
405 imposed directly on any municipality or fire protection district  
406 for a reasonable level of fire protection services unless  
407 provided for in a separate agreement between the municipality  
408 or the fire protection district and the utility.  
409

410 Staff relies on this provision in preparing its testimony on public fire  
411 protection rates and in making recommendations to the Commission  
412 regarding filings by utilities to recover public fire protection rates.  
413

414 Q. Do you agree with the Company's proposal to eliminate the differences in  
415 public fire protection charges between customers in the various  
416 municipalities and fire protection districts (FPD)?

417 A. No, I do not. I have several reasons for opposing the Company's proposed  
418 change in public fire protection rates. First, there are definite differences in  
419 the costs between the various municipalities and FPDs and the Company's  
420 proposal ignores those differences in cost. Some fire protection districts  
421 have a very limited number of hydrants installed within their district and

422 therefore have a lower level of service. From a cost-of-service standpoint it  
423 is not appropriate to charge all customers the same rate.

424

425 Second, the Company's proposal as written does not indicate that there  
426 would be any credit for an amount paid by a municipality or FPD if one of  
427 those entities pay all or a portion of the cost of fire protection. Until very  
428 recently, one municipality paid a portion of the fire protection costs, so that is  
429 a definite possibility. The tariff and testimony supporting that tariff does not  
430 clearly indicate how those payments would be credited to customers of the  
431 municipality which pays them.

432

433 Finally, I am very concerned that the Company's proposal is not in  
434 compliance with Section 9-223 of the Act. The Commission has consistently  
435 adopted public fire protection rates that look at the cost of fire protection in  
436 each municipality or fire protection district. The Company's proposal does  
437 not develop rates for the cost in each fire protection district in the traditional  
438 sense of cost-of-service. I cannot support this proposed change based on  
439 the Act and past Commission actions regarding filings pursuant to Section 9-  
440 223.

441

442 Q. Have you reviewed the Company's proposed Infrastructure System  
443 Improvement Charge ("ISIC") as set forth in ILL. C.C. No. 5, Original Sheets

444 17 through 19 for the Kankakee Division and ILL. C.C. No. 32, Original  
445 Sheets 15 through 18 for the Vermilion District?

446 A. Yes, I have.

447

448 Q. Is the wording in the two tariffs the same?

449 A. Yes, the wording is the same except for the "Applies to" and "Applicable  
450 Rate Charges" sections. The differences are necessary due to the different  
451 service areas and rates.

452 Q. Is a mechanism of this type allowed by the Act?

453 A. Yes, Section 9-220.2 would allow the Commission to approve such a  
454 surcharge. That Section reads as follows:

455 Sec. 9-220.2. Water and sewer surcharges authorized.

456 (a) The Commission may authorize a water or sewer utility to  
457 file a surcharge which adjusts rates and charges to provide for  
458 recovery of (i) the cost of purchased water, (ii) the cost of  
459 purchased sewage treatment service, (iii) other costs which  
460 fluctuate for reasons beyond the utility's control or are difficult  
461 to predict, or (iv) costs associated with an investment in  
462 qualifying infrastructure plant, independent of any other matters  
463 related to the utility's revenue requirement. A surcharge  
464 approved under this section can operate on an historical or a  
465 prospective basis.

466 (b) For purposes of this Section, "costs associated with an  
467 investment in qualifying infrastructure plant" include a return on  
468 the investment in and depreciation expense related to plant  
469 items or facilities (including, but not limited to, replacement  
470 mains, meters, services, and hydrants) which are not reflected  
471 in the rate base used to establish the utility's base rates and  
472 (ii) are non-revenue producing. For purposes of this section, a  
473 "non-revenue" producing facility is one that is not constructed  
474 or installed for the purposes of serving a new customer.

475 (c) On a periodic basis, the Commission shall initiate hearings  
476 to reconcile amounts collected under each surcharge  
477 authorized pursuant to this Section with the actual prudently

478 incurred costs recoverable for each annual period during which  
479 the surcharge was in effect.  
480

481 Q. Do you support the adoption of the Company's proposed Infrastructure  
482 System Improvement Charge for the Kankakee and Vermilion service  
483 areas?

484 A. No, I do not.

485

486 Q. Please explain why not.

487 A. There a number of problems with the surcharge proposed by the utility  
488 including the following:

489 1. The proposed surcharge would conflict with an ongoing rule  
490 making.

491 Currently there are Commission workshops developing new  
492 Administrative Codes that will implement surcharges for the recovery  
493 of purchased water and sewage treatment and for the recovery of  
494 investments in qualifying infrastructure plant. Establishing a tariff for  
495 this utility, during this rate case, disrespects the ongoing rule making  
496 process, the more appropriate forum for Consumers' concerns. As  
497 Consumers has chosen a 2001 future test year, any surcharge will not  
498 be applicable until January of 2002. There is simply no need to work  
499 outside the rulemaking to get an infrastructure surcharge in place for  
500 Consumers almost a full year before it is needed.

501                   2. The surcharge would be applicable to taxes and fire protection  
502                   rates.

503                   The surcharge proposed by Consumers would be applicable to  
504                   Municipal tax additions. This would penalize the customers in the  
505                   municipality imposing a municipal tax as compared to other  
506                   customers living in areas without such taxes since the customers  
507                   subject to the municipal tax would have to pay more of a surcharge  
508                   than a customer whose governmental agency does not impose such a  
509                   tax. From a cost-of-service standpoint, this does not make any sense  
510                   since the value to a customer associated with an improvement to  
511                   infrastructure does not change just because the municipality does or  
512                   does not have a municipal tax. The same situation applies to the  
513                   public fire protection charges. The charges vary by municipality and  
514                   fire protection district or in some cases there may be no charge at all  
515                   since the customers do not receive fire protection. The surcharge  
516                   should not be based on such a variable charge. The situation is  
517                   aggravated even more if one municipality pays the cost of fire  
518                   protection and another does not. The surcharge would be higher to  
519                   one customer compared with another, again without any cost-of-  
520                   service justification.

521                   (3) The surcharge does not credit depreciation on replaced plant.

522                   The tariff proposed by the Company does not deduct the  
523                   depreciation expense on plant being replaced so the Company would



524 continue to collect depreciation expense from customers on plant that  
525 has been replaced while the customers are also paying depreciation  
526 on the new plant through the surcharge.

527 (4) The surcharge would be applied to all items of plant.

528 The Distribution System Improvement Charge provision ("DISC")  
529 started in Pennsylvania. The plant included in the DISC approved in  
530 that state was limited to mains, meters, services and hydrants.

531 The surcharge being proposed by the Company in this case goes far  
532 beyond including mains, meters, services and hydrants. It would allow  
533 the inclusion of plant items such as an entire new treatment plant or a  
534 new elevated tank. If this provision were in place last year, much of the  
535 plant being installed in this case would be included in the surcharge. If  
536 it were in place several years ago, the capital costs associated with  
537 *the entire new treatment plant in Danville could have been included in*  
538 the surcharge based on the wording the Company has proposed for  
539 the surcharge. In the rate case that incorporated the capital and  
540 operational costs of the Danville treatment plant into rates (Docket  
541 No. 91-0176), InterState Water Company, which has since been  
542 merged into Consumers, received a 41% rate increase. I do not think  
543 it is good public policy to allow potential rate increases of such  
544 magnitude for a large public utility outside of a rate case.

545 5) There is no limit on the size of the surcharge.

546 NARUC adopted a resolution endorsing DISCs as an innovative  
547 regulatory tool addressing infrastructure remediation challenges,  
548 specifically mentioning the need for ratepayer protections. One such  
549 protection mentioned is that the DISC is limited to 5% of the water bill  
550 (other NARUC and National Association of Water Companies  
551 sponsored educational materials include a current ½ of 1 percent  
552 example). In the Company's proposal, there is no limit whatsoever.

553 6) The proposed surcharge does not address how mid year changes  
554 would be handled.

555 The proposed tariff does not contain any flexibility for changes that  
556 occur during the year.

557

558 Q. What is your recommendation regarding the Company's proposed  
559 infrastructure surcharge?

560 A. I recommend that it be denied. The proposal as presented is not close to  
561 being acceptable and there is another proceeding to develop uniform rules  
562 for all water/sewer utilities to follow. There is no need for this disputed  
563 surcharge to be approved prior to the rulemaking being completed.

564

565 Q. Have you designed rates to recover Staff's recommended revenue  
566 requirement?

567 A. Yes, I have. The rates are set forth on pages 1 and 2 of Staff Exhibit

568 4.00, Schedule 4.02 K.

569

570 Q. Are the rates different from those proposed by Mr. Monie?

571 A. Except for public fire protection rates, the rates are generally similar,  
572 especially when the difference in revenue requirement is taken into account.  
573 For public fire protection rates, I developed rates for each municipality or fire  
574 protection district in the manner required by Section 9-223 of the Act and in  
575 accordance with cost-of-service principles.

576

577 Q. Are there any potential problems with the public fire protection billing  
578 units?

579 A. I am concerned that the revised billing units provided by the Company in  
580 response to Staff Data Request TRS 2.08 may not be correct.

581

582 Q. How have you investigated the billing units?

583 A. I compared the number of fire hydrants listed by the Company in this case  
584 with the number provided by the Company in its last rate case (Docket No.  
585 97- 0351) and there are several unusual differences.

586

587 Q. Did you prepare an exhibit detailing the billing units in this case and in the  
588 last rate case?

589 A. Yes, I did. Staff Exhibit 4.00, Schedule 4.03 K sets forth a comparison of the  
590 billing units in the two cases. I am concerned about the number of billing

591 units listed for Kankakee Township, Manteno (IDCC) and Bourbonnais.

592 While there are differences in the other areas, the differences are not  
593 extreme. In particular, for Kankakee Township, the number of hydrants  
594 increased from 75 to 114, an increase of 52%, while the number of  
595 customers (the number of bills divided by 12) increased just 1 from 216 to  
596 217.

597 A similar situation exists in Manteno. The number of hydrants increased from  
598 19 to 70, an increase of 268%, while customers increased by 41 from 33 to  
599 74. Normally, I would not expect an increase of 51 hydrants to serve just 41  
600 additional customers.

601 In Bourbonnais, the situation is not as extreme but there is an increase of  
602 128 hydrants to serve an additional 151 customers. Again, that is not  
603 normal.

604 I recommend that the Company review the situation again to make absolutely  
605 certain that the hydrant and customer count are correct in each of the  
606 municipalities and fire protection districts.

607

608 Q. What do you recommend if the Commission approves a revenue  
609 requirement different than that recommended by Staff?

610 A. If the change is relatively minor, 5% or less, I recommend that the usage  
611 rates be changed by a uniform percentage to generate the desired revenue.

612 If the change is larger, I recommend that the customer charge also be  
613 adjusted to reflect cost of service.

614

615 Q. Did you ~~prepare a Schedule showing the bill impact on a residential~~  
616 customer from both the Company's proposed rates and Staff's proposed  
617 rates?

618 A. Yes, I did. ICC Staff Exhibit 4.00, Schedule 4.04 K sets forth several  
619 comparisons involving the Company's and Staff's proposed rates.  
620 Specifically the schedule depicts the dollar and percentage changes for bills  
621 at various usage levels at the Company's present and proposed rates and  
622 Staff's recommended rates.

623

624 Q. Do you have any recommendations for Consumers' next rate case?

625 A. Yes, I recommend that Consumers be required to begin keeping costs in  
626 such a manner that test year expenses can be readily identified so that cost-  
627 of-service studies can be presented by Staff without the need for the  
628 extensive data requests and the delays that were encountered in this case. I  
629 also recommend that the distribution system expenses be kept separately for  
630 mains, meters, services, hydrants and storage reservoirs.

631

632 Q. Does that conclude your testimony?

633 A. Yes, it does.

## **APPENDIX A**

### **Narrative Description of ECOSS Methodology**

#### **SUMMARY**

In general, the objectives of an ECOSS are to functionalize a utility's revenue requirement into basic categories and allocate those costs across rate classes to determine each class' cost of service. Rates can then be designed to recover the cost to serve each customer class. In the water industry, embedded cost studies are utilized as the main guide to designing rates which are unique to each utility.

The development of water rates, in general, involves the following procedures, described in the American Water Works Association ("AWWA") Manual M1, "Water Rates," p. vii (Fourth Edition):

- Determination of the total annual revenue requirements for the period for which the rates are to be effective.
- Allocation of the total annual revenue requirements to the basic functional cost components.
- Distribution of the component costs to the various customer classes in accordance with their requirements for service.

- Design of water rates that will, recover from each class of customer, within practical limits, the cost to serve that class of customer.

The following report describes the procedures employed in performing the embedded cost of service study for the Company.

## **ECOSS METHODOLOGY**

Staff's ECOSS uses the Base-Extra Capacity method described in detail in AWWA's *Water Rates*, Manual M1, (Fourth Edition) pages 11-16, 1991. This procedure is a generally accepted and often used method of determining the cost to serve water customers and thus provides the basis of designing rates for a water utility.

The basic breakdown of cost is the functionalization into operational components. For a water utility the three basic types of costs are 1) operation and maintenance ("O&M") expense 2) depreciation expense and 3) return on capital investment. This information is normally readily available from the utility's accounting records.

After the costs are functionalized, they are allocated to four main components 1) base costs 2) extra capacity costs 3) customer costs and 4) direct fire protection costs.

- **Base costs** are those costs that tend to vary with the total quantity of water used. These costs also include O&M expenses and capital costs associated with serving customers under average load conditions.
- **Extra capacity costs**, and their associated O&M and capital costs, are costs correlated with meeting usage in excess of average usage. These costs can be further subdivided into costs associated with maximum-day extra usage and maximum-hour extra usage.
- **Customer costs** encompass those expenditures related to serving a customer regardless of that customer's water usage or rate of usage. These contain costs associated with meters, services and other customer related costs.
- **Direct fire protection costs** are directly applicable to the fire protection function.

After costs are properly allocated between cost components, the cost of service for each meter size is determined. The fixed customer cost of service per meter has three basic components:



- **Equivalent meter costs** include those customer costs associated with meters.
- **Equivalent service costs** include those customer costs associated with services.
- **Other customer costs** are those costs attributed directly to customers, divided by the number of bills to obtain a customer charge per bill. Other customer costs are non-meter size sensitive with each meter size being allocated the same per unit charge, regardless of class (i.e. residential, commercial, industrial etc.).

Equivalent meters and services is a method of assigning costs based on the size of the meter. Distribution of customer costs by equivalent meter and service ratios recognizes that meter and service costs vary, depending on considerations such as size of service pipe, materials used, locations of meters, and other local characteristics for various sized meters as compared to 5/8" meters and services. The number of equivalent meters and services (i.e. which is based on meter ratios) assists in allocating costs assigned for recovery in the customer charges. This is necessary to adjust the units of service for each customer class as indexed against the smallest meter size. Therefore, customers are allocated a charge that reflects the costs associated with their particular meter size. Actual cost differentials are

taken from the AWWA Water Meters-Selection, Installation, Testing, and  
Maintenance Manual (M6), 1972 page 32-33.

CONSUMERS ILLINOIS WATER COMPANY  
Docket 00-0337 - Kankakee  
Staff Computation of Revenues at Present and Company Proposed Rates

	UNITS	PRESENT		PROPOSED	
		RATES	REVENUE	RATES	REVENUE
CUSTOMER CHARGES					
5/8"	234,789	10.00	2,347,890	10.50	2,465,285
3/4"	5,714	13.50	77,139	14.18	81,025
1"	6,842	20.50	140,261	21.53	147,308
1 1/2"	1,423	40.00	56,920	42.00	59,766
2"	2,934	60.00	176,040	63.00	184,842
3"	672	109.00	73,248	114.65	77,045
4"	84	178.00	14,952	186.90	15,700
6"	48	355.00	17,040	372.75	17,892
8"	12	565.00	6,780	593.25	7,119
10"	-	810.00	-	850.50	-
12"	-	1,200.00	-	1,312.50	-
3"	36	126.00	4,536	132.30	4,763
4"	84	210.00	17,640	220.50	18,522
6"	84	440.00	36,960	462.00	38,808
8"	48	633.00	30,384	664.65	31,903
10"	-	1,020.00	-	1,071.00	-
Total	<u>252,770</u>		<u>\$ 2,999,790</u>		<u>\$ 3,149,977</u>
USAGE					
1st	1,950,393	1.421	2,771,508	1.820	3,549,715
2nd	834,338	0.866	722,537	1.301	1,085,474
3rd	<u>1,789,441</u>	0.75	<u>1,342,081</u>	0.868	<u>1,553,235</u>
Total	<u>4,574,172</u>		<u>\$ 4,836,126</u>		<u>\$ 6,188,424</u>
Total			<u>\$ 7,835,916</u>		<u>\$ 9,338,400</u>
FIRE PROTECTION					
Private			45,858		68,565
Public			<u>444,236</u>		<u>487,248</u>
			<u>490,094</u>		<u>555,813</u>
OTHER REVENUE					
Forfeited Discounts			40,491		48,255
Misc			<u>53,423</u>		<u>53,423</u>
			<u>93,914</u>		<u>101,678</u>
TOTAL OPERATING REVENUES			<u>\$ 8,419,924</u>		<u>\$ 9,995,891</u>
Per Company			\$ 8,505,247		\$ 10,131,055
(Exs. A-3 & C-1)					
Difference			\$ (85,323)		\$ (135,164)

Note: Staff revenue computations exclude Franchise Fees of \$87,783 at present rates and \$104,514 at proposed rates.

CONSUMERS ILLINOIS WATER COMPANY  
Docket 00-0337 - Kankakee  
Staff Computations of Revenues as Present Rates

	Residential		Commercial		Industrial		Sale For Resale		Total	
	Units	Revenue	Units	Revenue	Units	Revenue	Units	Revenue	Units	Revenue
5/8"	10.00	223,751	\$ 2,237,510	10,930	\$ 109,300	108	1,080	-	234,789	\$2,347,890
3/4"	13.50	5,341	72,104	373	5,036	-	-	-	5,714	77,139
1"	20.50	3,140	64,370	3,630	74,415	72	1,476	-	6,842	140,261
1 1/2"	40.00	425	17,000	914	36,560	84	3,360	-	1,423	56,920
2"	60.00	361	21,660	2,417	145,020	156	9,360	-	2,934	176,040
3"	109.00	24	2,616	504	54,936	144	15,696	-	672	73,248
4"	178.00	-	-	48	8,544	36	6,408	-	84	14,952
6"	355.00	-	-	24	8,520	24	8,520	-	48	17,040
8"	565.00	-	-	12	6,780	-	-	-	12	6,780
10"	810.00	-	-	-	-	-	-	-	-	-
12"	1,200.00	-	-	-	-	-	-	-	-	-
3"	126.00	-	-	24	3,024	12	1,512	-	36	4,536
4"	210.00	-	-	72	15,120	-	-	12	84	17,640
6"	440.00	-	-	12	5,280	60	26,400	12	84	36,960
8"	633.00	-	-	12	7,596	36	22,788	-	48	30,384
10"	1,020.00	-	-	-	-	-	-	-	-	-
TOTAL	233,042	\$ 2,415,260	18,972	\$ 480,131	732	\$ 96,600	24	\$ 7,800	252,770	\$2,999,790
USAGE										
1st	1.421	1,697,883	\$ 2,412,692	236,975	\$ 336,741	14,815	\$ 21,052	720	\$ 1,023	1,950,393
2nd	0.866	201,084	174,139	502,302	434,994	119,672	103,636	11,280	9,768	834,338
3rd	0.750	1,416	1,062	320,752	240,564	1,360,733	1,020,550	106,540	79,905	1,789,441
		1,900,383	\$ 2,587,892	1,060,029	\$ 1,012,299	1,495,220	\$ 1,145,238	118,540	\$ 90,697	4,574,172
										4,836,126
Total		\$ 5,003,152		\$ 1,492,430		\$ 1,241,838		\$ 98,497		\$ 7,835,916

	Residential		Commercial		Industrial		Sale For Resale		Total	
	Units	Revenue	Units	Revenue	Units	Revenue	Units	Revenue	Units	Revenue
5/8"	10.50	223,751	\$ 2,349,386	10,930	\$ 114,765	108	1,134	-	234,789	\$2,465,285
3/4"	14.18	5,341	75,735	373	5,289	-	-	-	5,714	81,025
1"	21.53	3,140	67,604	3,630	78,154	72	1,550	-	6,842	147,308
1 1/2"	42.00	425	17,860	914	38,388	84	3,528	-	1,423	59,766
2"	63.00	361	22,743	2,417	152,271	156	9,828	-	2,934	184,842
3"	114.65	24	2,752	504	57,784	144	16,510	-	672	77,045
4"	186.90	-	-	48	8,971	36	6,728	-	84	15,700
6"	372.75	-	-	24	8,946	24	8,946	-	48	17,892
8"	593.25	-	-	12	7,119	-	-	-	12	7,119
10"	850.50	-	-	-	-	-	-	-	-	-
12"	1,312.50	-	-	-	-	-	-	-	-	-
3"	132.30	-	-	24	3,175	12	1,588	-	36	4,763
4"	220.50	-	-	72	15,876	-	-	-	84	18,522
6"	462.00	-	-	12	5,544	60	27,720	12	2,646	38,808
8"	664.65	-	-	12	7,976	36	23,927	-	48	31,903
10"	1,071.00	-	-	-	-	-	-	-	-	-
TOTAL	233,042	\$ 2,536,070	18,972	\$ 504,258	732	\$ 101,459	24	\$ 8,190	252,770	\$3,149,977
USAGE										
1st	1,820	1,697,863	\$ 3,090,147	236,975	\$ 431,295	14,815	\$ 26,963	720	\$ 1,310	1,950,393
2nd	1,301	201,084	261,610	502,302	653,495	119,672	155,693	11,280	14,675	834,338
3rd	0,868	1,416	1,229	320,752	278,413	1,360,733	1,181,116	106,540	92,477	1,789,441
	1,900,383	\$ 3,352,986	1,060,029	\$ 1,363,202	1,495,220	\$ 1,363,773	118,540	\$ 108,462	4,574,172	6,188,424
Total		\$ 5,889,056		\$ 1,867,460		\$ 1,465,232		\$ 116,652		\$9,338,400

ILLINOIS COMMERCE COMMISSION  
Cost of Service Study  
"Revenues at Present and Proposed Rates"

ITEM	PRESENT RATES	PROPOSED RATES	STAFF RATES	RESIDENTIAL		COMMERCIAL		INDUSTRIAL		PUB AUT		SALES FOR RESALE		TOTAL
				BILL AMT.	ADJUST.	BILL AMT.	ADJUST.	BILL AMT.	ADJUST.	BILL AMT.	ADJUST.	BILL AMT.	ADJUST.	
CUS CHARGES, MONTHLY														
5/8" disk	10.00	10.50	10.50	223,751	0	10,930	0	108	0	0	0	0	0	234,789
3/4" disk	13.50	14.18	13.50	5,341	0	373	0	72	0	0	0	0	0	5,714
1" disk	20.50	21.53	20.50	3,140	0	3,630	0	72	0	0	0	0	0	6,842
1 1/2" disk	40.00	42.00	40.00	425	0	914	0	84	0	0	0	0	0	1,423
2" disk	60.00	63.00	60.00	361	0	2,417	0	156	0	0	0	0	0	2,934
3" disk	109.00	114.65	109.00	24	0	504	0	144	0	0	0	0	0	672
4" disk	178.00	186.90	178.00	0	0	48	0	36	0	0	0	0	0	84
6" disk	355.00	372.75	355.00	0	0	24	0	24	0	0	0	0	0	48
8" disk	555.00	593.25	555.00	0	0	12	0	0	0	0	0	0	0	12
10" disk	810.00	850.50	810.00	0	0	0	0	0	0	0	0	0	0	0
12" disk	1200.00	1312.50	1200.00	0	0	0	0	0	0	0	0	0	0	0
3" turbine	126.00	132.20	126.00	0	0	24	0	12	0	0	0	0	0	36
4" turbine	210.00	220.50	210.00	0	0	72	0	60	0	0	0	0	0	84
6" turbine	440.00	462.00	440.00	0	0	12	0	0	0	0	0	0	0	12
8" turbine	633.00	664.65	633.00	0	0	12	0	36	0	0	0	0	0	48
10" turbine	1020.00	1071.00	1020.00	0	0	0	0	0	0	0	0	0	0	0
Remove Parallel Meters	0.00	0.00	0.00	0	0	0	0	0	0	0	0	0	0	0
Total Bills				223,042	0	18,972	0	732	0	0	0	24	0	252,770
TOTAL CUS CHARGE REVENUES: Present				2,415,280	0	480,131	0	96,600	0	0	0	7,800	0	2,999,790
Proposed				2,536,070	0	504,255	0	101,458	0	0	0	8,190	0	3,149,973
Staff				2,527,135	0	485,596	0	98,654	0	0	0	7,800	0	3,117,185
USAGE CHARGES (100 cubic feet)														
First Block	1,421.0	1,820.0	1,640.0	1,697,883	0	235,975	0	14,815	0	0	0	720	0	1,950,363
Second Block	0,866.0	1,307.0	1,044.0	201,084	0	502,302	0	119,672	0	0	0	11,280	0	834,338
Third Block	0,750.0	0,869.0	0,801.0	1,416	0	320,752	0	1,380,733	0	0	0	106,540	0	1,788,441
Fourth Block	0,000.0	0,000.0	0,000.0	0	0	0	0	0	0	0	0	0	0	0
Fifth Block	0,000.0	0,000.0	0,000.0	0	0	0	0	0	0	0	0	0	0	0
Sixth Block	0,000.0	0,000.0	0,000.0	0	0	0	0	0	0	0	0	0	0	0
ADJUSTMENTS														
First Block	1,421.0	1,820.0	1,640.0	0	0	0	0	0	0	0	0	0	0	0
Second Block	0,866.0	1,307.0	1,044.0	0	0	0	0	0	0	0	0	0	0	0
Third Block	0,750.0	0,869.0	0,801.0	0	0	0	0	0	0	0	0	0	0	0
Fourth Block	0,000.0	0,000.0	0,000.0	0	0	0	0	0	0	0	0	0	0	0
Fifth Block	0,000.0	0,000.0	0,000.0	0	0	0	0	0	0	0	0	0	0	0
Sixth Block	0,000.0	0,000.0	0,000.0	0	0	0	0	0	0	0	0	0	0	0
Total Usage				1,900,363	0	1,060,029	0	1,495,220	0	0	0	118,540	0	4,574,172
USAGE CHARGE REVENUES														
Present				2,587,882	0	1,012,299	0	1,145,238	0	0	0	90,697	0	4,836,126
Proposed				3,352,986	0	1,383,202	0	1,383,773	0	0	0	108,462	0	6,188,424
Staff				2,995,594	0	1,169,965	0	1,239,161	0	0	0	98,236	0	5,503,036

ILLINOIS COMMERCE COMMISSION  
Cost of Service Study  
"Revenues at Present and Proposed Rates"

ITEM	RESIDENTIAL		COMMERCIAL		INDUSTRIAL		PUB. AUT.		SALES FOR RESALE		TOTAL
	BILL AVA.	ADJUST.	BILL AVA.	ADJUST.	BILL AVA.	ADJUST.	BILL AVA.	ADJUST.	BILL AVA.	ADJUST.	
OTHER ADJUSTMENTS											
Reconciliation	Present	0	0	0	0	0	0	0	0	0	0
	Proposed	0	0	0	0	0	0	0	0	0	0
	Staff	0	0	0	0	0	0	0	0	0	0
TOTAL METERED REVENUES	Present	5,000,162	0	0	0	0	0	0	98,487	0	7,835,916
	Proposed	5,889,056	0	0	0	0	0	0	116,652	0	9,338,397
	Staff	5,522,729	0	0	0	0	0	0	106,096	0	8,620,220
PVT. FIRE PROT. RATES, MONTHLY											
Size Connection	Less than 3"	3"	4"	6"	8"	10"	12"	16"	PRIVATE HYDRANTS		
Present	4.00	5.00	7.00	13.00	24.00	40.00	63.00	0.00	12.70		
Proposed	5.14	5.14	9.13	20.54	36.53	57.07	82.19	0.00	12.70		
Per Cost of Service Study	5.00	7.00	9.00	18.00	33.00	55.00	86.00	177.00	14.15		
Staff	5.00	7.00	9.00	18.00	33.00	55.00	86.00	177.00	14.15		
Units (ANNUAL)	144	0	180	900	1,008	108	48	0	80		
NON-METERED REVENUES											
	PVT. FIRE		MUNICIPAL CHARGE								
Present	45,834	0	444,236	444,236	444,236	53,423	53,423	40,491	583,984		583,984
Proposed	68,562	0	485,880	485,880	485,880	53,423	53,423	40,491	648,156		648,156
Staff	62,721	0	688,248	688,248	688,248	53,423	53,423	48,424	852,816		852,816
TOTAL REVENUES											
Present	5,000,162		1,492,430		1,241,838		0		98,487		8,419,900
Proposed	5,889,056		1,867,458		1,466,231		0		116,652		9,886,553
Staff	5,522,729		1,655,560		1,335,835		0		106,096		9,473,036
PER STAFF											
Cost of Service	5,531,433		1,651,351		1,332,814		0		105,777		62,296
Percent Increase	10.4		10.9		7.6		0.0		7.7		36.8
Percent Cost of Service	99.8		100.3		100.2		0.0		100.3		100.7
Overall Percent Increase per Staff	12.5%										
Ratio of Class % Increase to Overall % Increase	0.83		0.87		0.61		0.00		0.62		

Docket No 00-0337

Cost of Service Study

ICC Staff Exhibit 4.00

"Demand Factors"

Schedule 4.02 K

DEMAND FACTORS

Customer Class	Max Day	Max Hour
Residential	2.50	3.00
Commercial	1.80	2.50
Industrial	1.30	1.50
Public Authority	1.40	1.60
Resale	1.30	1.50
Fire Protection	0.63	5.04
Gallons Per Minute	3,500	
Hours of Protection	3	

MGD PUMPAGE

Average Daily Rate	11.600
Max. Daily Rate	17.300
Max. Hourly Pumpage Rate	20.200
Max. Hourly Consumption Rate	21.500
(Pumpage plus Storage Drawdown)	



Docket No 00-0337

Cost of Service Study

ICC Staff Exhibit 4.00

"Allocation to Cost Functions"

Schedule 4.02 K

Description	Alloc. Code	Base		Extra Capacity		Customer Costs		Fire Service Percent
		Cost Percent	Max Day Percent	Max Hour Percent	Billing Percent	Meter Percent	Services Percent	
Base Cost	1	100.00%						
Base-Max Day	2	67.05%	32.95%					
Base-Max Hr.	3	53.95%		46.05%				
Max Hour	4			100.00%				
Commercial	5				100.00%			
Meters	6					100.00%		
Services	7						100.00%	
Hydrants	8							100.00%
Plant	9	36.00%	17.69%	15.61%	0.00%	8.20%	17.69%	4.80%
Adm. and Gen.	10	38.38%	18.51%	6.18%	31.75%	0.16%	2.99%	2.04%
Labor B'fits	11	0.00%	0.00%	0.00%	0.00%	0.00%	0.00%	0.00%
Base/Max Day/								
Max Hour	12	53.95%	26.51%	19.53%				
Base/Max Hr	14	51.92%	48.08%					
+ Fire								

Refer to last page for brief allocation code explanations

ILLINOIS COMMERCE COMMISSION  
Cost of Service Study  
"Plant in Service Allocation"

Act.	Account	Utility Cost	Depreciation Reserve	Net Cost	Base Cost	Extra Capacity	Max Day	Max Hour	Billing	Customer Costs	Services	Fire Service	Alloc. Code
	INTANGIBLE PLANT												
	301 Organization	58,733	0	58,733	58,733								1
	302 Franchises	12,606	0	12,606	12,606								1
	309 Miscellaneous	0	0	0	0								1
	SOURCE OF SUPPLY PLANT												
	303 Land and land rights	3,500	0	3,500	2,347	1,153		0	0	0	0	0	13
	304 Structures and improvements	18,726	8,390	10,336	6,930	3,406		0	0	0	0	0	13
	305 Collecting reservoirs	0	0	0	0								1
	306 Intakes	94,131	45,667	48,464	32,496	15,968		0	0	0	0	0	2
	307 Wells	28,915	6,435	22,480	15,073	7,407		0	0	0	0	0	2
	308 Infiltration Galleries	0	0	0	0								2
	309 Supply mains	45,120	0	45,120	30,254	14,866		0	0	0	0	0	2
	339 Other plant	0	0	0	0								2
	PUMPING PLANT												
	303 Land and land rights	17,320	0	17,320	9,345	4,592		3,383	0	0	0	0	13
	304 Structures and improvements	526,353	190,365	335,988	181,277	89,076		66,635	0	0	0	0	13
	310 Power Generation Equip.	248,324	48,702	199,622	107,703	52,923		38,996					12
	310 Other power production	0	0	0	0			0					12
	311 Steam pumping	0	0	0	0			0					12
	311 Electrical Pumping	550,613	69,566	481,045	259,541	127,533		93,972					12
	311 Diesel Pumping	0	0	0	0			0					12
	339 OtherPlant & Misc. Equip.	0	0	0	0			0					12
	WATER TREATMENT PLANT												
	303 Land and land rights	43,016	0	43,016	28,843	14,173		0	0	0	0	0	13
	304 Structures and improvements	2,986,963	580,287	2,406,676	1,613,725	792,951		0	0	0	0	0	13
	320 Water treatment	3,053,247	690,989	2,402,258	1,610,763	791,495		0	0	0	0	0	2
	339 OtherPlant & Misc. Equip.	0	0	0	0			0					2
	TRANSMISSION/DISTRIBUTION												
	303 Land and land rights	39,161	0	39,161	11,670	5,734		7,148	0	3,904	8,419	2,285	13
	304 Structures and improvements	265,610	(4,124)	269,734	80,380	39,497		49,235	0	26,890	57,990	15,742	13
	330 Dist. reservoirs and standpipes	2,385,592	335,980	2,059,612				2,059,612					4
	331 Mains	21,190,962	5,949,410	15,241,552	8,223,349	4,040,784		2,977,419					12
	333 Services	7,786,055	1,853,268	5,932,787						1,853,007	5,932,787		7
	334 Meters	2,033,953	180,946	1,853,007						898,027			6
	334 Meter installations	1,383,529	485,502	898,027									6
	335 Hydrants	2,117,020	505,524	1,610,496								1,610,495	8
	336 Backflow Prevention Devices	0	0	0							0		7
	339 OtherPlant & Misc. Equip.	15,631	406	15,225	4,537	2,229		2,779	0	1,518	3,273	889	13